



## HP Laptop 350 G2 fan change

### Preface

In this manual we will replace a fan in a laptop model HP 350 G2, because I only found a tutorial to a predecessor model. Some steps are similar and have therefore been omitted. Although there is still no discussion in Germany on the subject of the right to repair, one can count on certain certainty in the near future that the concept of [self-repair](#) will be declared illegal, even if it emphasizes certain advantages.

Overall, we need to focus more on our e-waste and plastic waste because existing countries such as China, Africa (Y.A. Adediran and A. Abdulkarim, Challenges of Electronic Waste Management in Nigeria, Department of Electrical & Electronics Engineering, University of Ilorin, Ilorin, Nigeria, International Journal of Advances in Engineering & technology, July 2012, ISSN: 2231-1963) and India (Anwesha Borthakur and Pardeep Singh, Electronic Waste in India: Problems and Policies, Centre for Studies in Science, Technology and Innovation Policy, School of Social Sciences, Central Gujarat, Gandhinagar, Gujarat, India, International Journal of Environment Sciences Volume 3, No 1, 2012 ISSN: 0976-4402) have limited capacity or simply decide to stop importing waste. We cannot rely on corporations or politics, but must rethink our consumer behaviour and the concept of a disposable society. If we continue to fire the companies to develop equipment that cannot be repaired, we should not be surprised if the problem is not solved. [Repair cafes](#) are already a good development in large cities and conurbations to teach citizens technology and the repair of hardware. But not everywhere people live in New York, Paris or Berlin, because electrical engineering also has to be repaired in rural areas.

### Materials

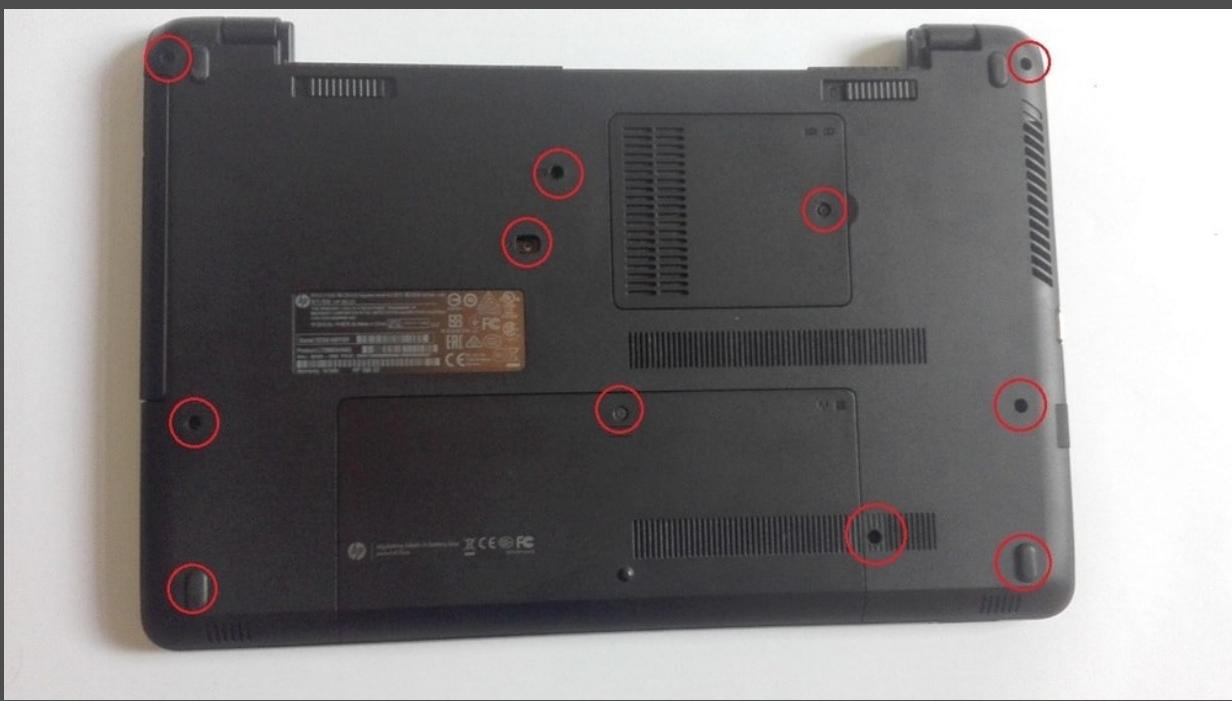
We don't need much material. The purchased fan, a screwdriver and something to lever open the covers. I may have used a thin metal spatula, but I advise against it. It's way too quick to scratch your case. You can try different materials, maybe an old credit card or a guitarist's pick. There are certainly also sets on the Internet to buy. Latex gloves and adhesive tape are not absolutely necessary and can also be omitted.

### Realisation

Before we start the repair, a few words about the preparation. First we order the hardware, because this can take a few weeks with the delivery, we either need a replacement device or should use our current laptop only gently. On the day of the repair, you should take at least a whole day to turn off your smartphone so that you can work in peace. Some places are very difficult to treat and sometimes you have to think about them again or read something.



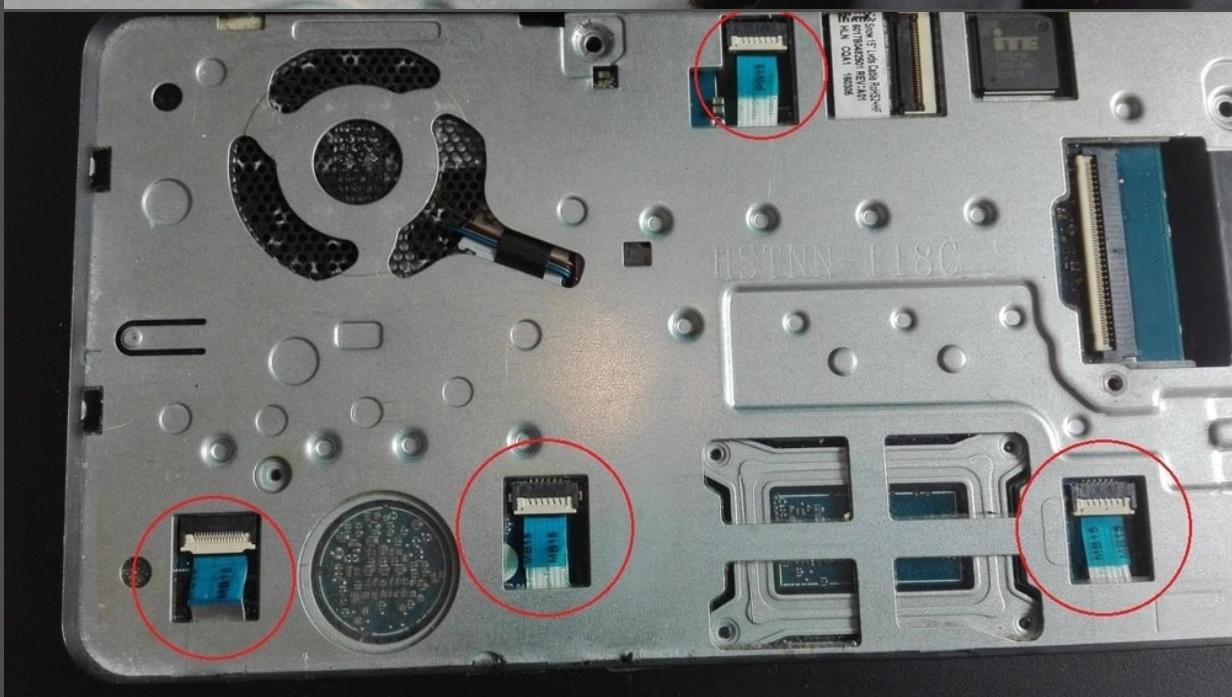
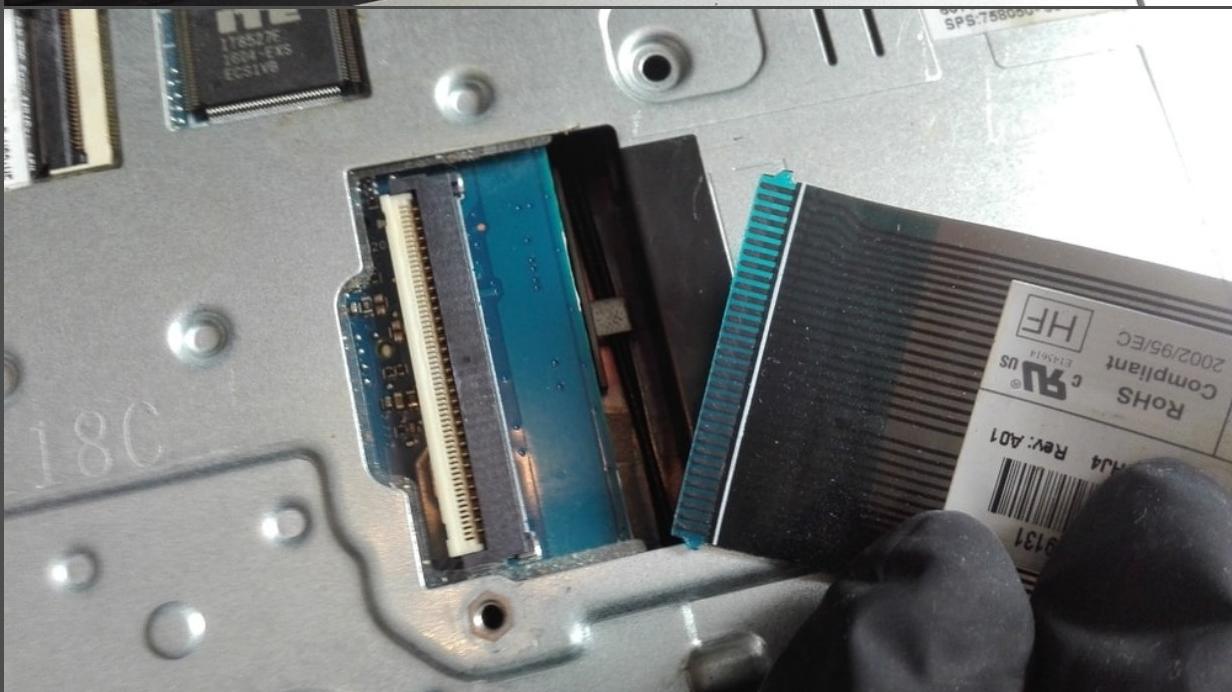
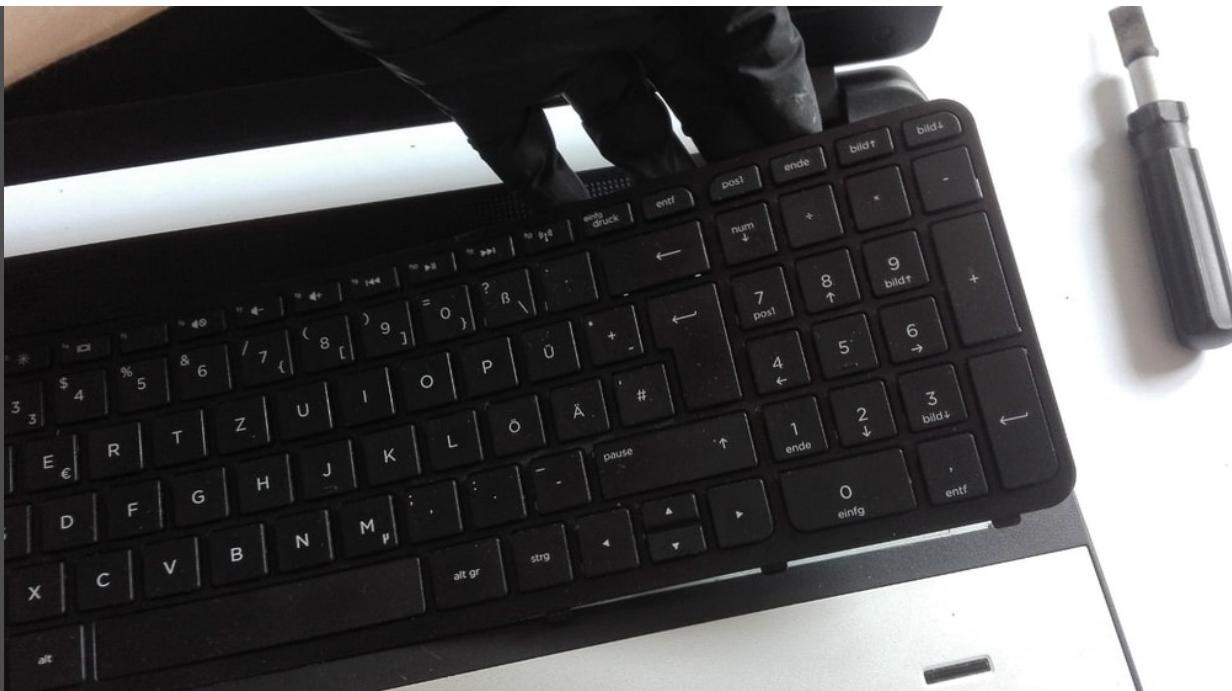
Since we will be working on our laptop's circuit board, we should avoid all sources that use power. Among them is the power plug that we unplug. We also remove the battery. We work carefully because we don't want to scratch our great stickers on the laptop. In the next step we have to remove all screws from the bottom with the Phillips screwdriver (the positions are marked with the red circles on the photograph). This includes the DVD drive. We can simply pull out the drive and put it aside. The fewer components are in the way of our repair, the less can accidentally break.



This step must be treated individually. Some people put the screws aside or make drawings. I simply turn the screw over and glue it with a little tape. I can't lose her or confuse her with another screw. Make sure that the tape does not leave any residue on the laptop's plastic. The best way to test this is to take a piece of old plastic, tape it with different types of adhesive tape and place it on the windowsill in the sun for a few days.

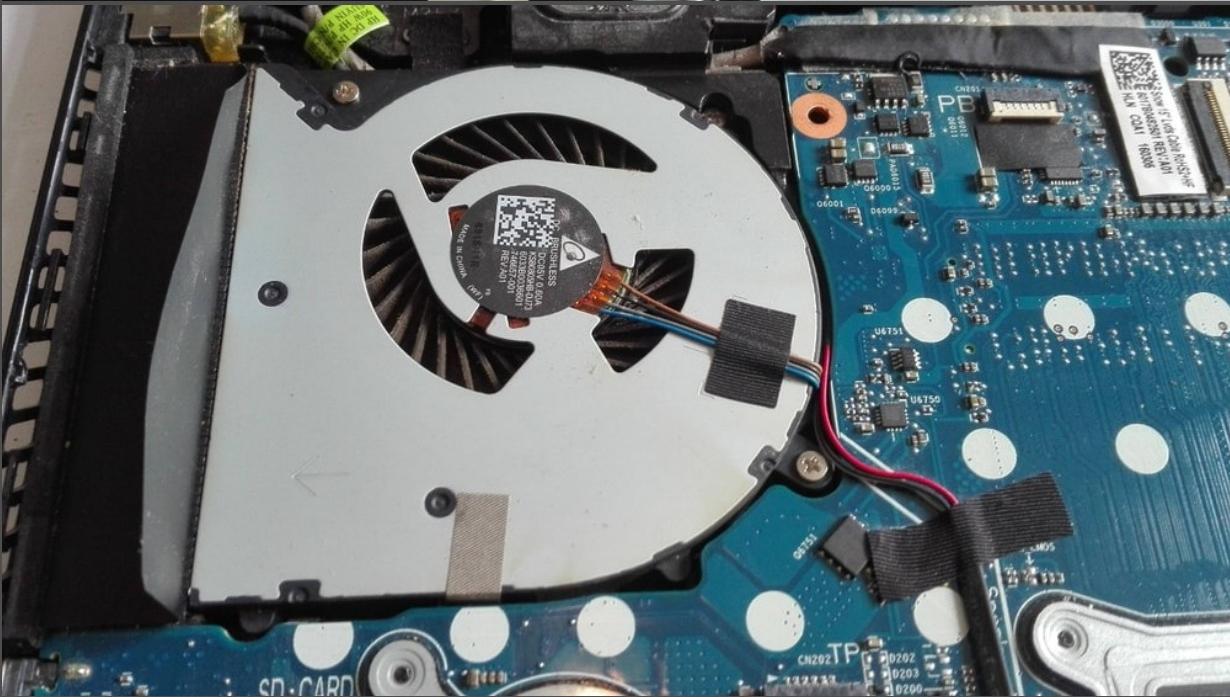


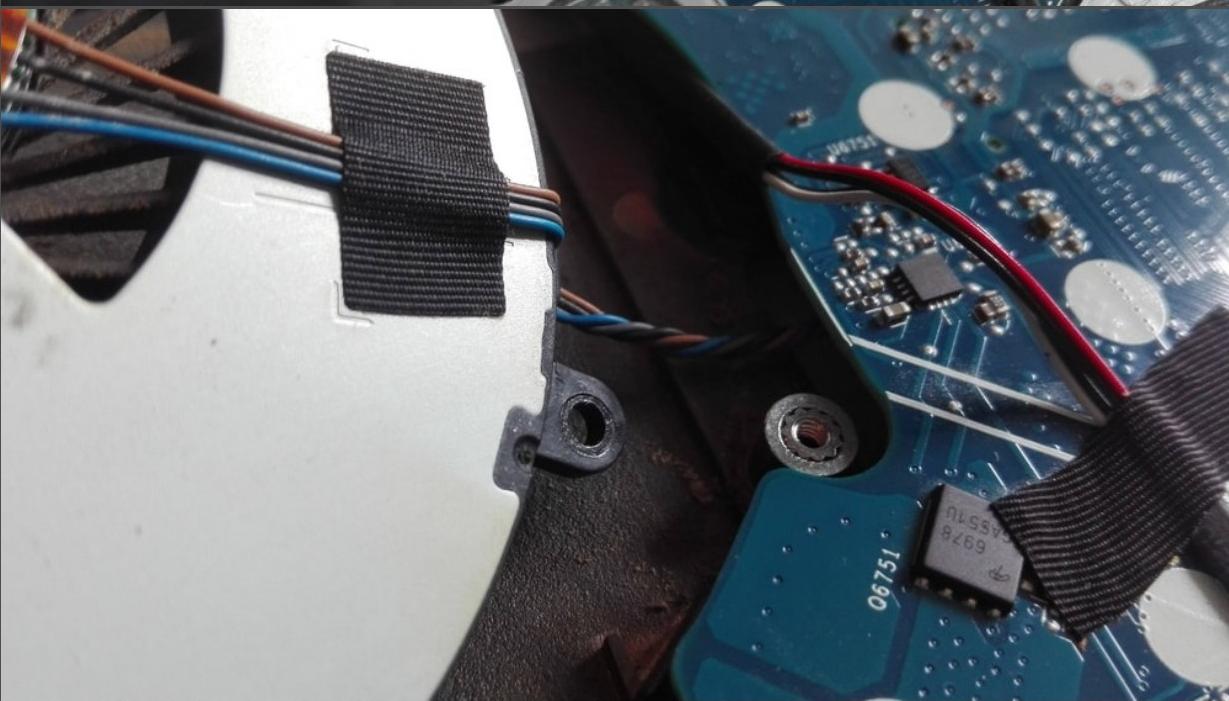
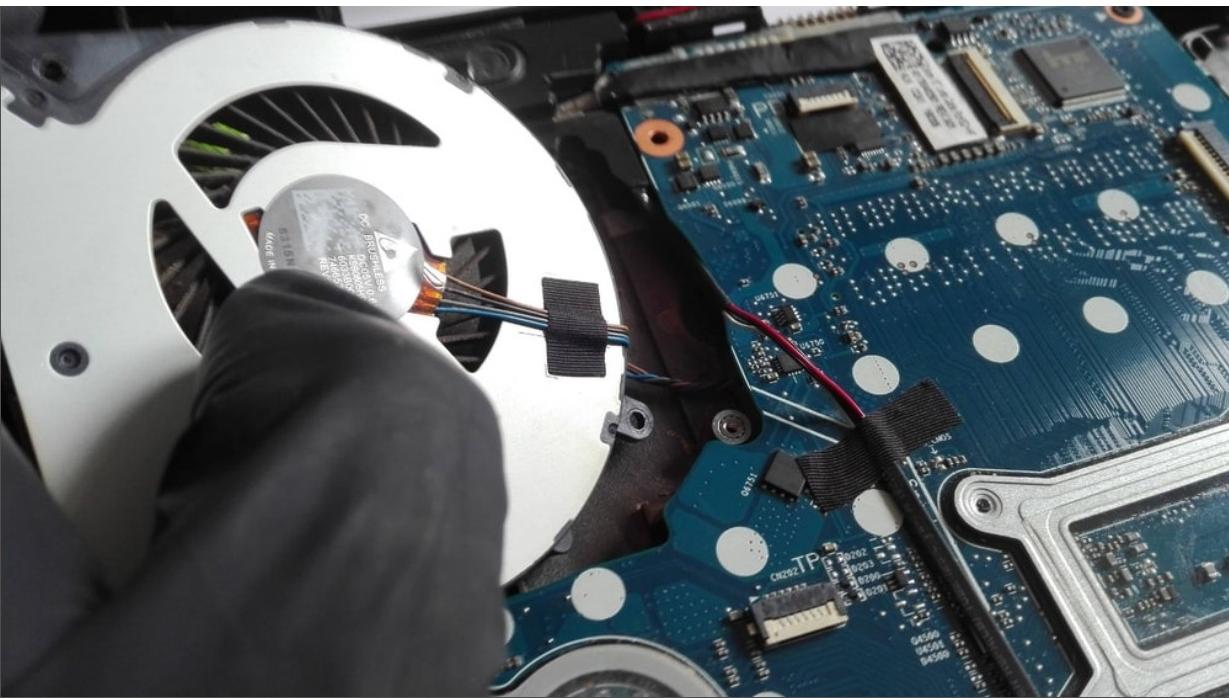
Now the keyboard has to be removed, because we have to connect to the technology or the main board. To do this, we use a flat object (not made of metal) to slightly raise the edge. Every few centimeters there is a small plastic projection that holds the component in its frame. When removing the keyboard, we have to be careful not to simply put it aside. These are connected to the main board with a sensitive plug connection. To remove the plug, carefully pull on the blue tab and wiggle slightly until it comes loose on its own. Before we can remove the casing above the main board, we have to remove the five connectors. We have to be very careful here. Especially at this point you should not get impatient, because these components are not only very expensive, but also can not even be exchanged.



The upper side must be loosened again with a narrow tool before it can be removed. Since this is made of metal, we must be careful not to bend it. Then we can clean the main board with a coarse

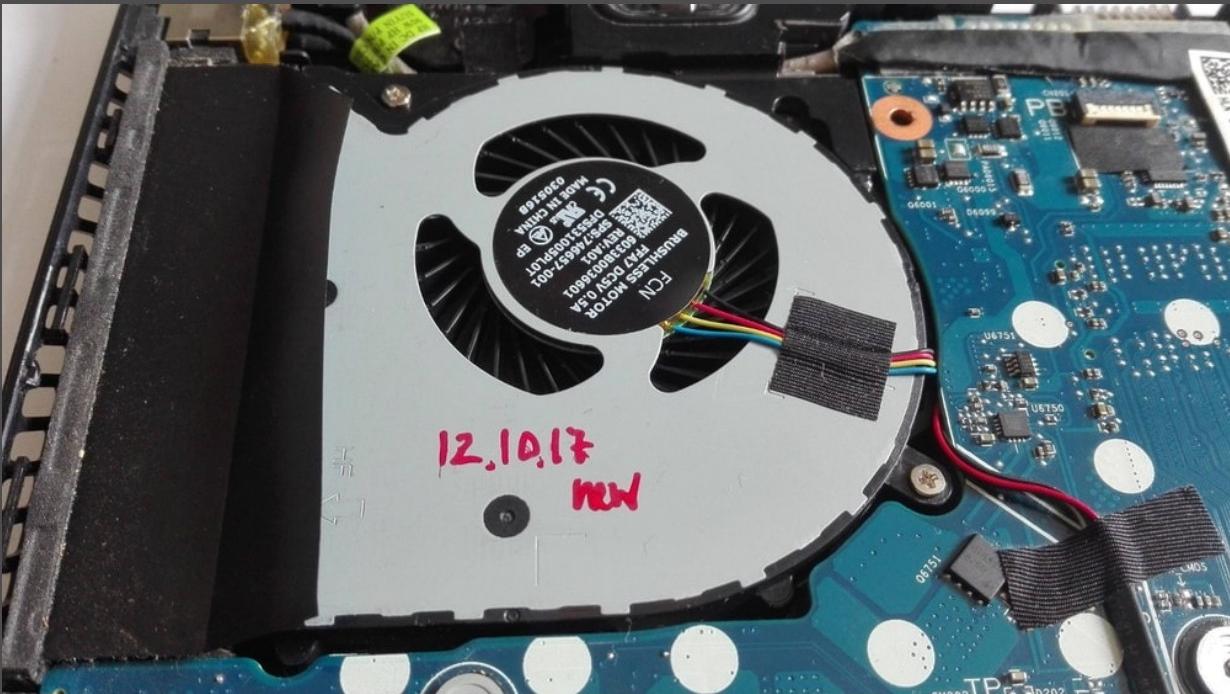
brush and remove dust before turning to the fan. The fan is fastened with three cruciform screws and is easy to loosen. The connector is on the back even if the first impression is different. The red and two grey cables to the right do not belong to the fan. After loosening the screws of the fan, you can see the connection cables and their running direction exactly. The fan connector is located on the bottom of the laptop and right next to the random access memory. During installation, we have to insert the new connector exactly at this point. This is a bit complicated, because we have to bring it from the front to the back between the housing and the main board, but it is still possible.





The new fan after installation. On the left side of the fan there is a black foil, which I have additionally fixed with double-sided adhesive tape. This reduces additional noise, even if removal is

more difficult. In addition, I use a waterproof marker to write down the date of installation so that I have an overview of the service life of the components. This helps me personally with the planning of future repairs. After installation we can put the laptop back together again.





During the removal we had to remove the glue under the rubber feet. We replace it with small pieces of double-sided adhesive tape. To make sure that the laptop is only opened by me and no other unauthorized person, I let a little nail polish or varnish drip into the holes of the screws. This is not 100% security, as there is no such thing in reality. I also advise people who plan to cross national borders with their hardware. I would never take my laptop, smartphone or Smartwatch to another country, but would buy it during a longer stay on site. I leave that decision to each of you.

### **Conclusion**

It took me three hours to change the fan. But I have to say that I am already experienced in the field of hardware. So you should set up at least one day to be able to work in peace. From this point of view, the exchange is easier than expected, which has surprised me positively. If you do not trust yourself in the process, you can also hire a friend from your circle of friends. But you should not pay more than 50€. For the fan I paid 20,99€ and this price should not be exceeded.